

CLAIMS

1. A gas sensor comprising a body, on which is mounted an optical source and detector means sensitive to light from the source, the body further comprising a channel arranged to admit gas, the channel comprising an elongated groove having reflective surfaces defining a folded optical path for light from the source.
2. A sensor as claimed in claim 1, in which the source is located at one end portion of the channel.
3. A sensor as claimed in claim 2, in which the detector means comprises a first detector located at the other end portion of the channel.
4. A sensor as claimed in claim 3, in which the detector means further comprises a second detector, the sensor further comprising means arranged to redirect a portion of light from a predetermined region of the channel to the second detector.
5. A sensor as claimed in any previous claim, in which a portion of the elongated groove forms a spiral optical path.
6. A sensor as claimed in any previous claim, in which a portion of the groove forms a serpentine optical path.
7. A sensor as claimed in any previous claim, in which a portion of the groove forms a helical optical path.

8. A sensor as claimed in claim 7, in which the body is cylindrical and the helical optical path extends around the exterior of the body.
9. A sensor as claimed in claim 8, in which the cylinder includes a hollow region and a portion of the groove comprises a helical optical path around the interior of the hollow region.
10. A sensor as claimed in claim 7, in which the body includes a hollow cylindrical region and a portion of the groove comprises a helical optical path around the interior of the hollow region.
11. A sensor as claimed in any one of claims 1 to 7, in which the body comprises a base arranged to accommodate the source and detector(s) and at least one wall extending transversely from the plane of the base.
12. A sensor as claimed in claim 11, in which the walls are arranged substantially to bisect each other transversely.
13. A sensor as claimed in claim 11 or 12, in which a portion of the elongated groove is located on the at least one wall and a portion of the groove is located on the base.

14. A sensor as claim in any previous claim, further comprising a cover for the channel including gas admittance means.
15. A sensor as claimed in claim 14, in which the cover has an interior surface facing the channel, which surface is arranged to reflect radiation.
16. A sensor as claimed in claim 14 or 15, in which the gas admittance means includes sintered material.
17. A sensor as claimed in claim 14 or 15, in which the gas admittance means includes a particulate filter.
18. A sensor as claimed in any preceding claim wherein the optical source is an infrared source.
19. A gas sensor, substantially as hereinbefore described, with reference to, or as illustrated in, the accompanying drawings.